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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/659,424

09/10/2003

Yutaka Mizuno

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09/19/2005

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EXAMINER

BASINGER, SHERMAN D

ART UNIT

PAPER NUMBER

3617

DATE MAILED: 09/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/659,424

Applicant(s)

MIZUNO ET AL.

Examiner

Sherman D. Basinger

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-29 is/are pending in the application.
- 4a) Of the above claim(s) 4, 8-23, 27 and 28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 3, 5-7, 24-26 and 29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 2/7/05 & 4/9/04 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 9/10/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on September 6, 2005 has been entered.

2. In order for the RCE to be timely, a three month extension of time was required. For a large entity, the cost for a three month extension of time is \$1020.00. On August 4, 2005 applicant requested a two month extension of time paying the \$450.00 fee. On September 6, 2005 applicant requested a third month, but only paid the fee for a one month extension of time, the fee being \$120.00. The total paid to date for the three month extension of time of reference is \$570.00. An additional \$450.00 is required in order for the filing of the RCE to be timely. Applicant's request for Continued Application contained the following sentence: Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410. The required \$450.00 will be charged to the deposit account listed in due course.

***Election/Restrictions***

3. Claims 4, 8-23, 27 and 28 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on October 4, 2004.

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 3, 5, 7, 24-26 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuda et al in view of Morrison.

Matsuda et al discloses a hull H, a propulsion unit P, a steering system 10 and 10A with an operator steering control configured to rotate a steering shaft 10A between a first maximum turning position 32a and a second maximum turning position 32b to permit an operator of the watercraft to control a position of the steering system.

Matsuda et al does not disclose a force detection assembly configured to sense a force further applied to the operator steering control after the operator steering control is turned to either of the first and second maximum turning positions, and a control system configured to increase an output of the propulsion unit and to vary the increased output

of the propulsion unit in proportion to variations in a magnitude of the forces further applied to the operator steering control without further movements of the operator steering control.

Matsuda et al discloses the use of proximity sensors 40 and 41 to increase output of the propulsion unit when the operator steering control exceeds a predetermined threshold.

Matsuda et al also discloses in column 10, line 29 that a contact type sensor can be used in place of the proximity sensors.

Morrison et al discloses such a contact sensor in conductive rubber load cell 30. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains to use contact sensors similar to 30 of Morrison in place of the proximity sensors used by Matsuda et al. Such sensors would require placement on stops 32a and 32b of Matsuda et al in order for portion 30p to contact them and produce the required load. Such load sensors would enable a force detection assembly configured to sense a force further applied to the operator steering control after the operator steering control is turned to either of the first and second maximum turning positions (32a and 32b), and a control system configured to increase an output of the propulsion unit and to vary the increased output of the propulsion unit in proportion to variations in a magnitude of the forces further applied to the operator steering control without further movements of the operator steering control.

The control system configured to increase an output of the propulsion unit when the force further applied to the operator steering control exceeds a predetermined threshold is already provided by Matsuda et al. The predetermined threshold is that in which the pins 33a and 33b first contact the lever Lt. Additional force on the steering handle causes one of the pins 33a or 33b to exceed this threshold and increase the output of the propulsion unit through the throttle lever and the throttle cable. Modifying the system of Matsuda et al to use load cells similar to 30 of Morrison would include this concept.

**Motivation to make such a change is to avoid having to use the cable system in the embodiment of figure 4A of Matsuda et al. A simple and more precise system will result.**

The fixed stops of claim 5 would be 32a and 32b of Matsuda et al, the moveable stop would be 30p of Matsuda et al, the load receiving elements would be the load cells provided to the stops of Matsuda et al in view of Morrison. Each of the load cells would be compressed by 30p of Matsuda et al.

The combination of Matsuda et al and Morrison also make obvious a steering assist method for a watercraft having an operator steering control configured to be turn able

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between but not substantially beyond maximum port and starboard turning positions (32a and 32b of Matsuda et al) and a propulsion unit, the method comprising determining when the operator steering control has been turned to either one of a port or starboard maximum turning position (the load sensors similar to 30 of Morrison at 32a and 32b of Matsuda et al) and when a magnitude of a further steering force that has been applied to the operator steering control is greater than a predetermined magnitude, detecting variations in the magnitude of a force above the predetermined magnitude further applied to the operator steering control after the operator steering control is turned to one of the maximum turning positions with a load cell similar to 30 of Morrison at either 32a or 32b of Matsuda et al, and varying a steering force of the watercraft in proportion with the variations in the magnitude of force further applied to the operator steering control above the predetermined magnitude (this is taught by Matsuda et al in that a predetermined threshold is that in which the pins 33a and 33b first contact the lever Lt and additional force on the steering handle causes one of the pins 33a or 33b to exceed this threshold and increase the output of the propulsion unit through the throttle lever and the throttle cable).

The combination of Matsuda et al and Morrison also make obvious a watercraft comprising a hull H of Matsuda et al, a propulsion unit P of Matsuda et al supported

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relative to the hull, a steering system of Matsuda et al configured to influence a direction of travel of the watercraft, the steering system comprising an operator steering control 10 of Matsuda et al configured to rotate a steering shaft 10A of Matsuda et al between port and starboard maximum steering positions 32a and 32b of Matsuda et al, the steering system being configured such that the operator steering control cannot be rotated substantially beyond the port and starboard maximum steering positions 32a and 32b of Matsuda et al, a control system including a load cell similar to 30 of Morrison configured to increase an output of the propulsion unit after the operator steering control has been rotated to either of the port and starboard maximum steering positions and a further force has been applied, the control system including means for varying the output of the propulsion unit in proportion with changes in magnitude of the further force applied to the operator steering control.

3. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuda et al and Morrison as applied to claim 5 above, and further in view of Sezaki.

The combination of Matsuda et al and Morrison does not disclose the use of a magnetostrictive detection system. Such systems are known as is shown by Sezaki. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains to use as the load cells provided to Matsuda et al in view of Morrison a magnetostrictive detection system with a



least one sensor configured to detect a change in a magnetic permeability of either of the first and second load receiving elements.

Motivation to do so is to obtain the benefits a magnetostrictive system provides over the use of load cells similar to those of Morrison.

### ***Response to Arguments***

4. Applicant's arguments filed September 6, 2005 have been fully considered but they are not persuasive. In rebuttal to these arguments, it is first pointed out that the control system configured to increase an output of the propulsion unit when the force further applied to the operator steering control exceeds a predetermined threshold is taught by Matsuda et al. The predetermined threshold is that in which the pins 33a and 33b first contact the lever Lt. Additional force on the steering handle causes one of the pins 33a or 33b to exceed this threshold and increase the output of the propulsion unit through the throttle lever and the throttle cable. With this teaching in mind, one having ordinary skill in the art providing load sensors similar to 30 of Morrison to the stops 32a and 32b of Matsuda et al would have found it obvious to increase the throttle of the engine as each load cell senses a greater force.

5. In response to applicant's argument that Morrison is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this

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case, Morrison is pertinent to the particular problem with which the applicant was concerned. That problem is replacing wires used by Matsuda et al with load cells. The load cells of Morrison measure the force of a foot on a pedal. Such load cells could have been used to measure the force on the stops 32a and 32b of Matsuda et al to control the engine throttle instead of having the pins 33a and 33b control the throttle through the lever.


6. Applicant's statements with regard to the rejection of claim 6 are noted.

### ***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sherman D. Basinger whose telephone number is 571-272-6679. The examiner can normally be reached on Monday through Friday, 5:30 a.m. to 2:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Samuel J. Morano can be reached on 571-272-6684. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Sherman D. Basinger  
Primary Examiner  
Art Unit 3617  
9/15/05

9/15/05